IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

NOVARTIS VACCINES AND DIAGNOSTICS, INC., Plaintiff,	§	
v.	§	CIVIL ACTION NO. 2:08-CV-67-TJW-CE
WYETH and WYETH PHARMACEUTICALS, INC., Defendants.	§	

MEMORANDUM OPINION AND ORDER

Plaintiff Novartis Vaccines and Diagnostics, Inc. ("Novartis") filed suit against Defendants Wyeth and Wyeth Pharmaceuticals, Inc. (collectively "Wyeth") for patent infringement of U.S. Patent No. 6,228,620 ("the '620 Patent"). Novartis has recently withdrawn its claim for patent infringement of U.S. Patent No. 6,060,447. This Memorandum Opinion and Order outlines the Court's claim construction for the four disputed terms in the '620 Patent.

I. BACKGROUND OF THE TECHNOLOGY

The '620 Patent is entitled "Protein Complexes Having Factor VIII:C Activity and Production Thereof." The invention generally relates to recombinant protein complexes useful in the treatment of classical (Type A) hemophilia. The abstract of the '620 Patent reads:

> Recombinant protein complexes having human Factor VIII:C activity are expressed in a eukaryotic host cell by transforming the host cell with first and second expression cassettes encoding a first polypeptide substantially homologous to human Factor VIII:C A domain and a second polypeptide substantially homologous to human Factor VIII:C C domain, respectively. In the present invention, the first polypeptide may be extended having at its C-terminal a human Factor VIII:C B domain N-terminal peptide, a polypeptide spacer of 3-40 amino acids, and a human Factor VIII:C B domain C-terminal peptide. Expression of the second polypeptide is improved by employing an α_1-antitrypsin signal sequence.

Claims 74 and 75 are particularly relevant for claim construction purposes. They state:

> 74. A host cell comprising nucleic acid for expression of a recombinant protein lacking all or a portion of the B domain of human Factor VIII, wherein said recombinant protein consists of a first amino acid sequence which consists of an amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1 to 740 of the native, mature A domain of human Factor VIII and optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 740 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190), and a second amino acid sequence which consists of an amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1649 to 2332 of the native, mature C domain of human Factor VIII and optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 1649 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190), wherein said recombinant protein is capable of coagulation activity in a coagulation activity assay.
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> 75. The host cell of claim 74, wherein the first amino acid sequence consists of an amino acid sequence having at least 90% sequence identity with amino acids 1 to 745 of native, mature human Factor VIII as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190) and the second amino acid sequence consists of an amino acid sequence having at least 90% sequence identity with amino acids 1640 to 2332 of native, mature human Factor VIII as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190).

II. GENERAL PRINCIPLES GOVERNING CLAIM CONSTRUCTION

"A claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention." *Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1340 (Fed. Cir. 1999). Claim construction is an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996).

To ascertain the meaning of claims, the court looks to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. The specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. *Id.* A patent's claims must be read in view of the specification, of which

they are a part. *Id*. For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Id*. "One purpose for examining the specification is to determine if the patentee has limited the scope of the claims." *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee's invention. Otherwise, there would be no need for claims. *SRI Int'l v. Matsushita Elec. Corp*., 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). Although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

This Court's claim construction decision must be informed by the Federal Circuit's decision in *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that "the *claims* of a patent define the invention to which the patentee is entitled the right to exclude." 415 F.3d at 1312 (emphasis added) (*quoting Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id*. The ordinary and customary meaning of a claim term "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id*. at 1313. This principle of patent law

flows naturally from the recognition that inventors are usually persons who are skilled in the field of the invention and that patents are addressed to and intended to be read by others skilled in the particular art. *Id*.

The primacy of claim terms notwithstanding, *Phillips* made clear that "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id*. Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of "a fully integrated written instrument." *Id*. at 1315 (quoting *Markman*, 52 F.3d at 978). Thus, the *Phillips* court emphasized the specification as being the primary basis for construing the claims. *Id*. at 1314-17. As the Supreme Court stated long ago, "in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims." *Bates v. Coe*, 98 U.S. 31, 38 (1878). In addressing the role of the specification, the *Phillips* court quoted with approval its earlier observations from *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998):

> Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.

Phillips, 415 F.3d at 1316. Consequently, *Phillips* emphasized the important role the specification plays in the claim construction process.

The prosecution history also continues to play an important role in claim interpretation. Like the specification, the prosecution history helps to demonstrate how the inventor and the

PTO understood the patent. *Id.* at 1317. Because the file history, however, "represents an ongoing negotiation between the PTO and the applicant," it may lack the clarity of the specification and thus be less useful in claim construction proceedings. *Id*. Nevertheless, the prosecution history is intrinsic evidence that is relevant to the determination of how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope of the claims. *Id.*

Phillips rejected any claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The *en banc* court condemned the suggestion made by *Texas Digital Systems, Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes. *Phillips*, 415 F.3d at 1319-24. The approach suggested by *Texas Digital*—the assignment of a limited role to the specification—was rejected as inconsistent with decisions holding the specification to be the best guide to the meaning of a disputed term. *Id*. at 1320-21. According to *Phillips*, reliance on dictionary definitions at the expense of the specification had the effect of "focus[ing] the inquiry on the abstract meaning of words rather than on the meaning of claim terms within the context of the patent." *Id*. at 1321. *Phillips* emphasized that the patent system is based on the proposition that the claims cover only the invented subject matter. *Id.* What is described in the claims flows from the statutory requirement imposed on the patentee to describe and particularly claim what he or she has invented. *Id*. The definitions found in dictionaries, however, often flow from the editors' objective of assembling all of the possible definitions for a word. *Id*. at 1321-22.

Phillips does not preclude all uses of dictionaries in claim construction proceedings.

Instead, the court assigned dictionaries a role subordinate to the intrinsic record. In doing so, the court emphasized that claim construction issues are not resolved by any magic formula. The court did not impose any particular sequence of steps for a court to follow when it considers disputed claim language. *Id*. at 1323-25. Rather, *Phillips* held that a court must attach the appropriate weight to the intrinsic sources offered in support of a proposed claim construction, bearing in mind the general rule that the claims measure the scope of the patent grant.

III. TERMS IN DISPUTE FROM THE '620 PATENT

a. "nucleic acid for expression of a recombinant protein" (claim 74)

Claim Language	**Novartis's Proposed Construction**	**Wyeth's Proposed Construction**
74. "A host cell comprising **nucleic acid for expression of a recombinant protein** lacking all or a portion of the B domain of human Factor VIII . . . ."	"nucleic acid for production of one or more recombinant proteins" revised/alternative proposed construction: "nucleic acid for production of one or more proteins made by splicing DNA or RNA"	"DNA or RNA that is not naturally found in a host cell which has been introduced into the host cell to produce one or more proteins" revised/alternative proposed construction: "DNA from two or more sources incorporated into a single artificial DNA molecule"

Originally, regarding the phrase "nucleic acid for expression of a recombinant protein," the primary dispute was whether the Court should adopt the additional language contained in Wyeth's original proposed construction that reads "that is not naturally found in a host cell." Then, only a few days before the claim construction hearing, Novartis proposed a revised or alternative construction which construes the phrase as "nucleic acid for production of one or more proteins made by splicing DNA or RNA." At the hearing, Wyeth in turn offered an additional proposed construction that reads "DNA from two or more sources incorporated into a single artificial DNA molecule." For the following reasons, the Court adopts Novartis's

proposed revised construction, which is "nucleic acid for production of one or more proteins made by splicing DNA or RNA."

1. The Parties' Arguments

Novartis argues that its original proposed construction of "nucleic acid for the production of one or more recombinant proteins" is consistent with the plain meaning of the phrase as understood by one of ordinary skill in the art. Although Novartis does not define "recombinant" in its original proposed construction, Novartis argues that this term needs no construction because its meaning will be apparent once developed at trial. Alternatively, in its revised proposed construction, Novartis has attempted to define "recombinant" in that construction. Novartis argues that Wyeth's proposed construction, in contrast, improperly adds the limitation that the DNA or RNA "is not naturally found in the host cell." Novartis argues that nothing in the intrinsic record requires the nucleic acid to be "not naturally found in the host cell." In addition, Novartis points out that the specification of the '620 Patent teaches that "[t]he sequences may be obtained from mammalian viruses *or the genes of the host cell* or genes from a different mammalian host which are active in the host cell. '620 Patent, at 5:22-25 (emphasis added). Therefore, Novartis argues that adding the limitation that the nucleic acid be "not naturally found in the host cell" would be reading out an embodiment in the specification.

Wyeth argues that Novartis's original construction is not helpful because it largely parrots the words of the claim. Instead, Wyeth argues that its construction illuminates that which a person of ordinary skill in the art would understand a recombinant protein to be: "a protein produced from a recombinant nucleic acid, *i.e.*, a nucleic acid (DNA or RNA) that was engineered by stitching together pieces of DNA or RNA that are ***not naturally found together*** in cells." (Dkt. No. 177, at 11 (emphasis in original).) Wyeth agrees with Novartis, however, that

"the individual pieces of DNA or RNA that make up the recombinant nucleic acids may originate in the host cell," but argues that its proposed construction does not require otherwise. (Dkt. No. 177, at 12.) Alternatively, at the claim construction hearing, Wyeth states that it would accept the alternative construction of the disputed phrase as "DNA from two or more sources incorporated into a single artificial DNA molecule," and Wyeth lifts this quote directly out of Novartis's reply brief. (Dkt. No. 183, at 8.)

2. Analysis

The Court adopts Novartis's proposed revised construction that reads "nucleic acid for production of one or more proteins made by splicing DNA or RNA." The parties agree that the individual pieces of DNA or RNA that make the recombinant nucleic acids may originate in the host cell. The Court disagrees, however, with Wyeth's assertion that its construction would not require otherwise. Wyeth's construction plainly reads as "DNA or RNA that *is not found in a host cell*," and it could cause confusion to the jury and could potentially be interpreted as not allowing the pieces of DNA or RNA that make the recombinant nucleic acids to originate in the host cell, which is not a proper limitation. Additionally, at the claim construction hearing, Wyeth also stated that it "could live with" Novartis's "proposed" construction in its reply brief that reads "DNA from two or more sources incorporated into a single artificial DNA molecule." (Hearing Transcript, Dkt. No. 202, at 39.) The Court rejects this, however, because Novartis's reply brief was merely attempting to define "recombinant," and not "nucleic acid for expression of a recombinant protein," which is the actual disputed phrase. (Dkt. No. 183, at 8.) The Court, therefore, rejects Wyeth's proposed constructions.

The Court agrees with Novartis's proposed constructions. Notably, Wyeth has not provided any argument that Novartis's constructions are not accurate. Instead, Wyeth only

argues that they may be confusing or not helpful to the jury. The Court disagrees and construes "nucleic acid for expression of a recombinant protein" as "*nucleic acid for production of one or more proteins made by splicing DNA or RNA.*"

b. "said recombinant protein consists of a first amino acid sequence . . ." "and a second amino acid sequence" (claim 74)

Claim Language	**Novartis's Proposed Construction**	**Wyeth's Proposed Construction**
74. "A host cell comprising nucleic acid for expression of a recombinant protein lacking all or a portion of the B domain of human Factor VIII, wherein **said recombinant protein consists of a first amino acid sequence** which consists of an amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1 to 740 of the native, mature A domain of human Factor VIII and optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 740 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190), **and a second amino acid sequence** which consists of an amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1649 to 2332 of the native, mature C domain of human Factor VIII and optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 1649 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190), wherein said recombinant protein is capable of coagulation activity in a coagulation activity assay."	This term should be construed according to its plain and ordinary meaning. In the alternative, should the Court believe construction of this term is needed, then this term should be construed to mean: "one or more recombinant proteins produced in the host cell must contain two and only two amino acid sequences" <u>Revised proposed construction:</u> "at least one protein produced from the spliced DNA or RNA contained in the host cell must contain two and only two amino acid sequences and cannot contain anything other than the two amino acid sequences."	"any and all proteins produced from the non-naturally occurring DNA or RNA contained in the host cell must contain two and only two amino acid sequences and cannot contain anything other than the two amino acid sequences"

The dispute with this term arises because claim 74 invokes not only the transitional phrase "comprising," but also the phrase "consisting of." The Court adopts Novartis's revised proposed construction that reads "at least one protein produced from the spliced DNA or RNA

contained in the host cell must contain two and only two amino acid sequences and cannot contain anything other than the two amino acid sequences."

1. The Parties' Arguments

Wyeth seeks a construction that reads "any and all proteins produced from the non-naturally occurring DNA or RNA contained in the host cell must contain two and only two amino acid sequences and cannot contain anything other than the two amino acid sequences." To support its construction, Wyeth notes that "closed" transition phrases such as "consisting of" are understood to exclude any elements, steps, or ingredients not specified in the claim. *Norian Corp. v. Stryker Corp.*, 363 F.3d 1321, 1334 (Fed. Cir. 2004). Wyeth also notes that the "consists of" language acts as a transitional phrase for the words "said recombinant protein." Therefore, Wyeth argues that the "said recombinant protein" is limited to the "first amino acid sequence" and the "second amino acid sequence" because those are the only two sequences to which the "recombinant protein" limitation is directed.

Novartis argues that this term needs no construction, or alternatively, if the Court construes the phrase, it should construe it as "one or more recombinant proteins produced in the host cell must contain two and only two amino acid sequences." After the briefing, Novartis provided a revised, alternative proposed construction that reads "at least one protein produced from the spliced DNA or RNA contained in the host cell must contain two and only two amino acid sequences and cannot contain anything other than the two amino acid sequences." Novartis points out that when referring to the "host cell," the claim language actually uses the transitional phrase "comprising." Novartis notes that the transitional phrase "comprising" is open-ended and the addition of elements not recited in the claim cannot defeat infringement. *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1371 (Fed. Cir. 2005). Novartis agrees that the claim

uses the phrase "consists of," but argues that the "consists of" phrase is used with respect to the "said recombinant protein" and the "comprising" phrase is used with respect to the "host cell." Therefore, Novartis states that "[w]hile claim 74 requires the expression of 'a recombinant protein' that *consists of* a first and second amino acid sequence, the host cell—because of the claim's open-ended transition 'comprising'—may contain nucleic acids expressing other proteins that do not consist of the first and second amino acid sequence." (Dkt. No. 183, at 5.) Hence, Novartis argues that Wyeth's proposed construction is flawed by limiting the "host cell," instead of the "said recombinant protein," to the two amino acid sequences.

2. Analysis

The Court agrees with Novartis and adopts its alternative construction. As with the previous claim term, Wyeth seeks to improperly add a limitation to the claim language. The claim language of claim 74 clearly calls out a "host cell *comprising* . . . a recombinant protein" and "wherein said recombinant protein *consists of* . . ." '620 Patent, 59:66-60-2 (emphasis added). Therefore, the "comprising" phrase is used in connection with the "host cell" and the "consists of" phrase is used with respect to the "recombinant protein." Wyeth is correct that the "consists of" phrase is a closed-ended transitional phrase and that excludes any elements, steps, or ingredients not specified in the claim. However, Wyeth's construction seeks to limit the "host cell," which is modified by the "comprising" transitional phrase, exclusively to the two amino acid sequences called out in the claim. Instead, it is only the "recombinant protein," which is modified by the "consists of" transitional phrase, that should be limited to the two amino acid sequences. Wyeth's construction replaces "comprising" (which follows the "host cell" in the claim language) with "consisting of." That is improper. Because of the "comprising" language,

the "host cell" is not limited to only the recombinant protein containing the two amino acid sequences.

Hence, only the "recombinant protein" is limited to the two amino acid sequences called out in the claim. Novartis's proposed alternative construction best captures that interpretation. The Court construes the phrases "said recombinant protein consists of a first amino acid sequence . . . and a second amino acid sequence" as "*at least one protein produced from the spliced DNA or RNA contained in the host cell must contain two and only two amino acid sequences and cannot contain anything other than the two amino acid sequences*."

c. "consists of a first amino acid sequence which consists of an amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1 to 740 of the native, mature A domain of human Factor VIII and optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 740 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190)" and "consists of an amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1649 to 2332 of the native, mature C domain of human Factor VIII and optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 1649 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190)"

Claim Language	**Novartis's Original Proposed Construction**	**Wyeth's Proposed Construction**
74. "A host cell comprising nucleic acid for expression of a recombinant protein lacking all or a portion of the B domain of human Factor VIII, wherein said recombinant protein **consists of a first amino acid sequence which consists of an amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1 to 740 of the native, mature A domain of human Factor VIII and optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 740 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190)**, and a second amino acid sequence which **consists of an amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1649 to 2332 of the native, mature C domain of human Factor VIII and optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 1649 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190)**, wherein said recombinant protein is capable of coagulation activity in a coagulation activity assay."	"Amino acids 1 to 740 of the human Factor VIII protein with no more than a 10% difference in the amino acids in the sequence relative to the native mature A domain of the human Factor VIII protein. The sequence may include up to 10 amino acids from the human Factor VIII B domain bonded to amino acid 740 as encoded by the polynucleotide present in plasmid pSVF8- 200 (ATCC No.40190)." and "Amino acids 1649 to 2332 of the human Factor VIII protein with no more than a 10% difference in the amino acids in the sequence relative to the native mature C domain of the human Factor VIII protein. The sequence may include up to 10 amino acids from the human Factor VIII B domain bonded to amino acid 1649 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190)."	"The first amino acid sequence only contains amino acids 1 to 740 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200 with no more than 10% amino acid substitutions and no deletions or additions. The first amino acid sequence may also optionally contain amino acid 741 up to amino acid 750 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200." and "The second amino acid sequence only contains amino acids 1649 to 2332 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200 with no more than 10% amino acid substitutions and no deletions or additions. The second amino acid sequence may also optionally contain amino acid 1648 up to amino acid 1639 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200."

There are essentially two disputes over these phrases. First, the parties dispute the meaning of the term "90% sequence identity." Second, the parties dispute the meaning of the phrase "optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to . . . ." For the reasons that follow, the Court, to a large degree, adopts Wyeth's construction.

1. The Parties' Arguments

As to the "90% sequence identity" phrase, Wyeth seeks to clarify that this means that "the first amino acid sequence only contains amino acids 1 to 740 . . . with no more than 10% amino acid substitutions and no deletions or additions." Wyeth points out that in the Delaware action Novartis sought a construction that read "no more than 10% amino acid substitutions and no deletions." (Ex. 14, Dkt. No. 177.) Wyeth, therefore, argues that Novartis should not be able to seek one construction in the Delaware Court to advance its position in an interference action, and then, in this Court, for infringement purposes, argue for a broader construction. Additionally, Wyeth argues that if the Court were to adopt Novartis's construction and not add the clarification that there can be no additions or deletions, then for the second amino acid sequence, Novartis could essentially add or subtract 68 amino acids from the second amino acid sequence (i.e., the second amino acid sequence runs from 1649 to 2332, which is 683 amino acids, and 10% of 683 amino acids is approximately 68). Wyeth argues this construction is inconsistent with other claims and how those claims use the phrase "90% sequence identity." For example, claim 1 requires "a second amino acid sequence having at least 90% sequence identity with the contiguous amino acid sequence of amino acids 1649, plus or minus 10 amino acids, through amino acid 2332." '610 Patent, 51:37-40. Wyeth argues that under Novartis's construction of "90% sequence identity," the "plus or minus 10 amino acids" language in claim 1 would be useless if "90% sequence identity" already allowed the addition or subtraction of 68 amino acids.

As to the "optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 740" phrase, Wyeth seeks to clarify that, for example, "the first amino acid sequence may also optionally contain amino acids 741 up to amino acid 750 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200." Wyeth argues this is consistent with what the inventors explained in the prosecution history. For example, in a March 2, 2000 Supplement to an Amendment, the inventors explained that "the specification and claims now recite that the first amino acid sequence includes amino acids 1-740, and optionally up to 10 amino acids of the B domain contiguous with the A domain (i.e., up to any of amino acids 741-750)." (Ex. 13 at NOV00251560, Dkt. No. 177.) Wyeth argues this prosecution history makes clear that the amino acids in the B domain are those amino acids 741-750—and not any amino acids in the B domain as Novartis original construction proposes. In addition, Wyeth points out that the B domain sequence has more than 1000 amino acids and includes all of the 20 amino acids. Hence, Wyeth argues it would not be logical to allow the 10 optional B domain amino acids to be any 10 amino acids in the B domain because, if that were the proper interpretation, then the claim could have just read: "and optionally up to any 10 amino acids," and not limited it to those in the B domain.

Novartis argues the "90% sequence identity" phrase should not be limited, as Wyeth proposes, to substitutions and not allow additions or deletions. Novartis argues that the term "identity" is broad enough to capture more than "substitutions." Additionally, Novartis points out that the Delaware Court declined to construe the "90% sequence identity" term. Novartis does not dispute, however, that its proposed construction in Delaware included the "substitutions and no deletions" language. Finally, for this term, Novartis argues that Wyeth misinterprets Novartis's definition when it states that Novartis could add or subtract 68 amino acids under

Novartis's construction. Novartis states that under its construction, "the '90% sequence identity' term allows changes *within* amino acids 1-740 or 1649-2332, but not the addition of portions of the B domain to the ends of the A and C domains." (Dkt. No. 183, at 8.) Therefore, Novartis argues that Wyeth's accusations that Novartis's constructions cannot be consistently read with other claims are baseless.

In relation to the "optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 740" phrase, Novartis originally argued that this language does not require the 10 amino acids to be derived from amino acids 741-750. Novartis argued that where the claim language uses the word "contiguous," it is using that word to show that the additional amino acids will be bonded to amino acid 740 and are thus "contiguous" to the first amino acid sequence. Also, Novartis argues that the statements Wyeth uses from the prosecution history are not sufficient to show a disclaimer.

As with its other constructions, however, Novartis also proposed a revised construction a few days before the claim construction hearing. Novartis's proposed revised construction reads:

> Amino acids 1 to 740 of the human Factor VIII protein with no more than a 10% difference within amino acids 1 to 740 compared to the native mature A domain of the human Factor VIII protein. The first amino acid sequence may be extended by bonding to amino acid 740 up to 10 amino acids selected from amino acids 741-750 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190).
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> and
>
> Amino acids 1649 to 2332 of the human Factor VIII protein with no more than a 10% difference within amino acids 1649 to 2332 compared to the native mature C domain of the human Factor VIII protein. The second amino acid sequence may be extended by bonding to amino acid 1649 up to 10 amino acids selected from amino acids 1639-1648 as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190).

When compared to Novartis's original construction, its revised construction makes no material change to the "90% sequence identity" limitation. The primary difference in Novartis's revised proposed construction from its original proposed construction is with respect to the "optionally up to 10 amino acids of the human Factor VIII B domain sequence" phrase. Rather than allowing the 10 amino acids to be selected from any 10 in the B domain sequence, Novartis's new construction advances a claim construction position that it dismissed as improper in its claim construction brief. (Dkt. No. 173, at 16 ("This language does not require that amino acids 741 through 750 be the amino acids that are optionally bonded 'contiguous' (*i.e.*, adjacent) to amino acid 740.").) Novartis now urges that "[t]he first amino acid sequence may be extended by bonding to amino acid 740 up to 10 amino acids selected from amino acids 741-750." The only dispute with this language in Novartis's revised construction is that it would allow the "up to 10 amino acids" to be selected from any of the 741-750 amino acids and potentially arranged in any order. (*See* Hearing Transcript, Dkt. No. 202, at 80:1-8.) Wyeth argues this is improper.

2. Analysis

The Court agrees with Wyeth and adopts, in large part, its proposed construction. First, with respect to the "90% sequence identity" issue, in an interference action in Delaware between Novartis and Genetics Institute, Inc., who is a subsidiary of Wyeth, Novartis sought a different construction of "90% sequence identity" than it does in this Court. (*See* Dkt. No. 177, Ex. 14.) Novartis cannot argue to the Delaware Court, for interference purposes, to construe the phrase as "no more than 10% amino acid substitutions and no deletions" and then, for infringement purposes, argue the opposite to this Court. Although Novartis argues that the Delaware Court did not issue a claim construction on this issue, that does not change the fact that Novartis took the opposite position that it is taking now. This Court, therefore, limits Novartis to the definition

it proposed to the Delaware Court, that is, that there be "no more than 10% amino acid substitutions and no deletions." That construction is substantially similar to the construction that Wyeth proposes. The Court, however, is not adopting the additional language of no "additions." It appears that both parties in Delaware agreed this language was unnecessary, and neither side has persuasively shown why this Court should adopt a different construction.

The Court adopts Wyeth's position for the "optionally up to 10 amino acids of the human Factor VIII B domain sequence contiguous to amino acid 740" phrase. Although Novartis is correct that the inventors' comments in the prosecution history are not disclaimers, the inventors' comments in the prosecution history, on the other hand, shed light on the use of the word "contiguous" in claim 74. Wyeth's argument presupposes that by "contiguous" in claim 74, the claim is referencing that the optional 10 amino acids are those 10 that are contiguous to amino acid 740, that is, amino acids 741-750. Novartis's original argument presupposed that by "contiguous" in claim 74, the claim is referencing that the optional 10 amino acids can be any 10 amino acids in the B domain but that those 10 amino acids are added contiguously to the end of amino acid 740 on the recombinant protein that is the invention. The statements in prosecution history do not show a disclaimer, but those statements do help to resolve the dispute. The inventors stated in the prosecution history that "the specification and claims now recite that the first amino acid sequence includes amino acids 1-740, and optionally up to 10 amino acids of the B domain contiguous with the A domain (i.e., up to any of amino acids 741-750)." (Ex. 13 at NOV00251560, Dkt. No. 177.) This prosecution history clearly supports Wyeth's interpretation.

Novartis's revised proposed construction is not as flawed as its original construction, but the Court disagrees with Novartis that the "optionally up to 10 amino acids" of 741-750 or 1649-2332 may added to the first or second sequence without regard to their order. Under the '620

Patent claims 74 and 75, for example, if three amino acids of 741-750 are added to the first amino acid sequence then those three amino acid must be 741, 742, and 743. On the other hand, it would be improper if the three amino acids in the example were 748, then 742, and then 745. Novartis's revised proposed construction would allow for the latter, and that is improper under a plain reading of the claim language. Thus, although Novartis maintains that the prosecution history supports its revised construction, the prosecution history supports the opposite. At the claim construction hearing, Novartis relied on the following quote from the prosecution history:

> Thus, the C domain may include up to 10 amino acids of the B domain which immediately precede the C domain (e.g., amino acids 1649-2332 and from an amino acid occurring at a position from 1639-1649 which defines the C-terminal portion of the B domain).

(Amendment, December 22, 1999, at NOV00251533.) Novartis particularly relied on the words "from an amino acid occurring at a position from 1639-1649" and argued that this phrase was not limiting and could be read as allowing the amino acids to be "any" of the ones from 1639-1649—regardless of the order. The Court interprets the phrase differently. The phrase must be read in context because it states "*from* an amino acid occurring at a position from 1639-1649 *which defines the C-terminal portion*." (emphasis added). As the emphasized language suggests, the phrase is more naturally interpreted to require an order or sequence with respect to the "up to 10 amino acids." Additionally, the plain language of Claim 74 implies there is a required order or sequence because it calls out "up to 10 amino acids . . . *contiguous* to amino acid 1649." '620 Patent, 60:13-15. The Court interprets the use of "contiguous" here to mean that the placement of the up to 10 amino acids must be adjacent to 1649 and also continuous or uninterrupted. *See Webster's Third New International Dictionary* 492 (Philip Babcock Gove, Ph.D. et al. eds., 1993) (defining contiguous as "CONTINUOUS, UNBROKEN, UNINTERRUPTED" and "involving items so occurring or arranged").

The Court adopts the following construction of the disputed phrases:

The first amino acid sequence contains amino acids 1 to 740 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200 with no more than 10% amino acid substitutions and no deletions. The first amino acid sequence may also optionally contain amino acid 741 up to amino acid 750 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200.

and

The second amino acid sequence contains amino acids 1649 to 2332 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200 with no more than 10% amino acid substitutions and no deletions. The second amino acid sequence may also optionally contain amino acid 1648 up to amino acid 1639 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200.

d. "consists of an amino acid sequence having at least 90% sequence identity with amino acids 1 to 745 of native, mature human Factor VIII" and "consists of an amino acid sequence having at least 90% sequence identity with amino acids 1640 to 2332 of native, mature human Factor VIII"

Claim Language	**Novartis's Proposed Construction**	**Wyeth's Proposed Construction**
75. "The host cell of claim 74, wherein the first amino acid sequence **consists of an amino acid sequence having at least 90% sequence identity with amino acids 1 to 745 of native, mature human Factor VIII** as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190) and the second amino acid sequence **consists of an amino acid sequence having at least 90% sequence identity with amino acids 1640 to 2332 of native, mature human Factor VIII** as encoded by the polynucleotide present in plasmid pSVF8-200 (ATCC No. 40190)."	"Amino acids 1 to 745 of the human Factor VIII protein with no more than a 10% difference in the amino acids in the sequence relative to the native mature human Factor VIII protein." and "Amino acids 1640 to 2332 of the human Factor VIII protein with no more than a 10% difference in the amino acids in the sequence relative to the native mature human Factor VIII protein."	"The first amino acid sequence only contains amino acids 1 to 745 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200 with no more than 10% amino acid substitutions. No amino acid deletions or additions are permitted." and "The second amino acid sequence only contains amino acids 1640 to 2332 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200 with no more than 10% amino acid substitutions. No amino acid deletions or additions are permitted."

The arguments and proposed constructions of this phrase are similar to the previous disputed phrase. The Court reaches the same conclusion and adopts the following construction:

> *The first amino acid sequence contains amino acids 1 to 745 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200 with no more than 10% amino acid substitutions. No amino acid deletions are permitted.*
>
> and
>
> *The second amino acid sequence contains amino acids 1640 to 2332 of the human Factor VIII protein as encoded by the DNA present in plasmid pSVF8-200 with no more than 10% amino acid substitutions. No amino acid deletions are permitted.*

IV. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the '620 Patent. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

It is so ORDERED.

SIGNED this 26th day of April, 2011.

CHARLES EVERINGHAM IV
UNITED STATES MAGISTRATE JUDGE